

## REMARKS

The Specification has been amended to include sequence identification numbers and delete reference to hyperlinks, to address the objections to the specification stated in the action. Additionally, Applicants have submitted a replacement paper copy and computer readable form copy of the sequence listing.

Attached hereto is a marked-up version of the changes made to the specification by the current amendment. The attached page is captioned "Version with markings to show changes made.".

The undersigned hereby states that the paper copy of the Sequence Listing and the computer readable form copy of the Sequence Listing, submitted in accordance with 37 C.F.R. § 1.825(a) and (b), respectively, are the same and contain no new matter. Accordingly, entry of the Sequence Listing into the above-captioned case is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket No. 511582000800.

Respectfully submitted,

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**Version With Markings To Show Changes Made**

The paragraph beginning at page 11, line 19, has been amended as follows:

Further specific embodiments of this aspect of the invention include primers and primer pairs, which allow the specific amplification of the polynucleotides of the invention or of any specific parts thereof, and probes that selectively or specifically hybridize to nucleic acid molecules of the invention or to any part thereof. Probes may be labeled with a detectable marker, such as, for example, a radioisotope, fluorescent compound, bioluminescent compound, a chemiluminescent compound, metal chelator or enzyme. Such probes and primers can be used to detect the presence of a 20P1F12/TMPRSS2 polynucleotide in a sample and as a means for detecting a cell expressing a 20P1F12/TMPRSS2 protein. An example of such a probe is a [polypeptide] polynucleotide comprising all or part of the human 20P1F12/TMPRSS2 cDNA sequence shown in FIG. 1 [(SEQ ID NO: XX)](SEQ ID NO. 1). Examples of primer pairs capable of specifically amplifying 20P1F12/TMPRSS2 mRNAs are also described in the Examples which follow. As will be understood by the skilled artisan, a great many different primers and probes may be prepared based on the sequences provided in herein and used effectively to amplify and/or detect a 20P1F12/TMPRSS2 mRNA.

The paragraph beginning at page 23, line 14, has been amended as follows:

Genetic immunization methods may be employed to generate prophylactic or therapeutic humoral and cellular immune responses directed against cancer cells expressing 20P1F12/TMPRSS2, particularly colon and prostate cancer cells. Constructs comprising DNA encoding a 20P1F12/TMPRSS2 protein/immunogen and appropriate regulatory sequences may be injected directly into muscle or skin of an individual, such that the cells of the muscle or skin take-up the construct and express the encoded 20P1F12/TMPRSS2 protein/immunogen. The 20P1F12/TMPRSS2 protein/immunogen may be expressed as a cell surface protein or be secreted. Expression of the 20P1F12/TMPRSS2 protein/immunogen results in the generation of prophylactic or therapeutic humoral and cellular immunity against prostate cancer. Various prophylactic and

therapeutic genetic immunization techniques known in the art may be used (for review, see information and references published at internet address [www.]genweb.com).

The paragraph beginning at page 28, line 10, has been amended as follows:

Adaptor 1:

5'CTAATACGACTCACTATAGGGCTCGAGCGGCCCGCCGGGCAGGT3' (SEQ NO: 7)  
3'GGCCCGTCCA5' (SEQ ID NO: 14)

The paragraph beginning at page 28, line 14, has been amended as follows:

Adaptor 2:

5'GTAATACGACTCACTATAGGGCAGCGTGGTCGCGGCCGAGGT3' (SEQ ID NO: 8)  
3'CGGCTCCA5' (SEQ ID NO: 15)

The paragraph beginning at page 30, line 16, has been amended as follows:

Normalization of the first strand cDNAs from multiple tissues was performed by using the primers 5'atatgccgcgctcgtcgtcgacaa3' (SEQ ID NO:16) and 5'agccacacgcagctcattgtagaagg 3' (SEQ ID NO:17) to amplify  $\beta$ -actin. First strand cDNA (5  $\mu$ l) was amplified in a total volume of 50  $\mu$ l containing 0.4  $\mu$ M primers, 0.2  $\mu$ M each dNTPs, 1XPCR buffer (Clontech, 10 mM Tris-HCL, 1.5 mM MgCl<sub>2</sub>, 50 mM KCl, pH8.3) and 1X KlenTaq DNA polymerase (Clontech). Five  $\mu$ l of the PCR reaction was removed at 18, 20, and 22 cycles and used for agarose gel electrophoresis. PCR was performed using an MJ Research thermal cycler under the following conditions: initial denaturation was at 94°C for 15 sec, followed by a 18, 20, and 22 cycles of 94°C for 15, 65°C for 2 min, 72°C for 5 sec. A final extension at 72°C was carried out for 2 min. After agarose gel electrophoresis, the band intensities of the 283 bp  $\beta$ -actin bands from multiple tissues were compared by visual inspection. Dilution factors for the first strand cDNAs were calculated to result in equal  $\beta$ -actin band intensities in all tissues after 22 cycles of PCR.

Three rounds of normalization were required to achieve equal band intensities in all tissues after 22 cycles of PCR.

The paragraph beginning at page 30, line 32, has been amended as follows:

To determine expression levels of the 20P1F12 gene, 5 µl of normalized first strand cDNA was analyzed by PCR using 25, 30, and 35 cycles of amplification using the following primer pairs, which were designed with the assistance of (MIT for details, see, [www.]genome.wi.mit.edu):

5' AGT CTT CCT GCT GAG TCC TTT CC 3' (SEQ ID NO: 12)

5' CAA GGG CAC TGT CTA TAT TCT CAC C 3'(SEQ ID NO: 13)

Semi quantitative expression analysis was achieved by comparing the PCR products at cycle numbers that give light band intensities.